

EXHIBIT “A-2”

JAY WERKHAVEN, M.D.
Vanderbilt University Medical Center
2200 Children's Way
Doctors Office Tower, 7th Floor
Nashville, Tennessee 37232

J-54170

May 9, 2014

EXPERT WITNESS REPORT

LOVELACE v. PEDIATRIC ANESTHESIOLOGISTS, P.A.;
BABU RAO PAIDIPALLI; and MARK P. CLEMONS

I, Jay Werkhaven, M.D. have been retained to evaluate the medical treatment rendered by Mark Clemons, M.D. to Brett Lovelace on March 12, 2012, at LeBonheur Hospital. In 2012, I was licensed in Tennessee and a practicing otolaryngologist in Nashville, Tennessee, and was so licensed and practicing at least one year prior thereto. I am familiar with the recognized standard of acceptable professional practice for otolaryngologists in March, 2012, in Memphis, Tennessee. My qualifications are set forth in my *curriculum vitae*.

In forming my opinions, I reviewed the following:

1. LeBonheur medical records of Brett Lovelace.
2. Medical records of Dr. Clemons.
3. Deposition of Dr. Mark Clemons.

The facts I considered in forming opinions are as follows:

The patient, Brett Lovelace, age twelve (12) was obese and had a past history of asthma. He was admitted to LeBonheur on March 12, 2012, for a tonsillectomy and adenoidectomy which was performed by Dr. Mark Clemons. Pre-operatively, the patient was worked up and evaluated by the anesthesia personnel including Dr. Paidipalli. There were no problems intra-operatively, and Dr. Clemons completed the surgical aspects of the case.

I intend to provide expert testimony in connection with the treatment rendered by Dr. Clemons, but not as to any other healthcare provider.

Within the past four (4) years, I have not testified at trial, but have testified by deposition in one case styled Evans vs. Williams, in the Circuit Court of Gibson County.

My publications for the past ten (10) years are contained in my CV attached.

I follow the fee schedule imposed by Vanderbilt University Medical School for expert review and testimony. The hourly charge is basically \$600.00 for review of cases and \$7,500.00 per day for out-of-town court testimony.


JAY WERKHAVEN, M.D.

CURRICULUM VITAE

Jay Werkhaven., M.D.

Department of Otolaryngology-Pediatric

**The Vanderbilt Bill Wilkerson Center at
Monroe Carell Jr. Children's Hospital at Vanderbilt**

2200 Children's Way

7th Floor, Doctor's Office Tower

Nashville, Tennessee 37232-9307

JULY 3, 2013

CURRICULUM VITAE

JAY WERKHAVEN, M.D.

PERSONAL INFORMATION

Business Address: The Vanderbilt Bill Wilkerson Center for Otolaryngology and
Communication Sciences
Department of Otolaryngology-Head & Neck Surgery
2200 Children's Way
7th Floor, Doctors' Office Tower
Nashville, Tennessee 37232-9307
Wendy Crumley 615-875-3737 (Office Assistant IV)
Office: 615-875-0584
Fax: 615-875-0101
E-Mail: jay.werkhaven@vanderbilt.edu

Date of Birth: August 11, 1956

EDUCATION

Medicine: Doctor of Medicine
Bowman Gray School of Medicine
Wake Forest University
Winston-Salem, North Carolina
1982

Pre-Med Wittenburg University
Bachelor of Arts – Chemistry
Magna Cum Laude
Springfield, OH
1978

POST-GRADUATE TRAINING

Internship: General Surgery
University of Illinois at Chicago
Chicago, IL
1982-1983

Residency: Otolaryngology
University of Illinois at Chicago Medical Center
Chicago, IL
1983-1987

Fellowship: Pediatric Otolaryngology
NIH Training Grant Research Fellow
Children's Hospital in Pittsburgh
Pittsburgh, PA
1987-1988

Fellowship (Continued): Pediatric Otolaryngology
Children's Hospital of Pittsburgh
Pittsburgh, PA
1988-1989

LICENSURE Tennessee
1989-Present
License Number: MD 019508

BOARD CERTIFICATION American Board of Otolaryngology, Pediatric, 1987
American Board of Otolaryngology, 1985
National Board of Medical Examiners, 1983

ACADEMIC APPOINTMENTS

1987-1988 *Assistant Instructor*
Department of Otolaryngology
University of Pittsburgh School of Medicine

1988-1989 *Instructor*
Department of Otolaryngology
University of Pittsburgh School of Medicine

1989-1991 *Assistant Professor*
Department of Otolaryngology
Vanderbilt Bill Wilkerson Center at Monroe Carrel's Children's Hospital
Vanderbilt University School of Medicine

1992-2000 *Assistant Professor*
Department of Otolaryngology
Vanderbilt Bill Wilkerson Center at Monroe Carrel's Children's Hospital
Vanderbilt University School of Medicine

2000-Present *Associate Professor*
Department of Otolaryngology
Vanderbilt Bill Wilkerson Center at Monroe Carrel's Children's Hospital
Vanderbilt University School of Medicine

2006-2013 *Director*
Division of Pediatric Otolaryngology
Vanderbilt Bill Wilkerson Center at Monroe Carrel's Children's Hospital
Vanderbilt University School of Medicine

2013-Present *Director of Analytics*
Division of Pediatric Otolaryngology
Vanderbilt Bill Wilkerson Center at Monroe Carrel's Children's Hospital
Vanderbilt University School of Medicine

HOSPITAL APPOINTMENTS

1991-1992	Staff Division of Pediatric Otolaryngology Nemours Children's Clinic Jacksonville, FL
2006-2013	Director – Division of Pediatric Otolaryngology Monroe Carell Jr. Children's Hospital at Vanderbilt 2200 Children's Way Nashville, Tennessee 37232
2013-Present	Director of Analytics – Division of Pediatric Otolaryngology Monroe Carell Jr. Children's Hospital at Vanderbilt 2200 Children's Way Nashville, Tennessee 37232
2001-2011	Active Staff St. Thomas Hospital 4220 Harding Road Nashville, Tennessee 37205

2012-2014	Active Staff Baptist Hospital 200 Church Street Nashville, Tennessee 37201
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PROFESSIONAL ORGANIZATIONS

American Medical Association
Tennessee Medical Association
Nashville Academy of Medicine
American Academy of Otolaryngology-Head and Neck Surgery
Society for Ear, Nose and Throat Advances in Children
American Society of Pediatric Otolaryngology
American Broncho-Esophological Association
American Society for Laser Medicine and Surgery
Wilderness Medical Society
Society of University Otolaryngologists - Head and Neck Surgeons
Nashville Academy of Otolaryngology - Head and Neck Surgery
Optical Society of America
American Society for Photobiology
Society of Photo-Optical Instrumentation Engineers (SPIE)
Biomedical Optics Society

HONORS AND AWARDS

Undergraduate:

1975	Phi Eta Sigma Honorary
1977	Outstanding Chemistry Student
1978	American Chemical Society Award

Graduate:
1978-1982

Charles Alva Strickland Scholarship

Professional:

1994	Named to list of <u>Best Doctors in America</u>
1994	American Academy of Otolaryngology - Head and Neck Surgery Honor Award
1995	Named to list of <u>Best Doctors in America: Midwest Region (1996-1997)</u>
1998	Named to list of <u>Best Doctors in America</u>
2004-2005	Named to list of <u>Best Doctors in America</u>
2010	Named to <u>Guide to America's Top Physicians</u>
2011	Named to list of <u>Best Doctors in America</u>
2013	Named to list of <u>Best Doctors in America</u>
2013	Aerodigestive Conference Panel Member
2013	Nashville Business Journal, Best Doctors List
2014	Named to list of <u>Best Doctors in America</u>
2014	Castle Connolly Americas Top Doctors

POSTERS

1. *Ewings Sarcoma*. Presented as a Poster. American Society for Pediatric Otolaryngology, annual meeting, Kiawah, SC, April 1988 (with K. Chan).
2. MRI and CT Imaging of Foreign Bodies in the Aerodigestive Tract. Presented as a Poster. American Society for Pediatric Otolaryngology Annual Meeting, Kiawah, SC, 1988 (with K. Chan).
3. *Infectious Mononucleosis with Airway Obstruction and Cranial Nerve Paralysis*. Presented as a Poster. American Society for Pediatric Otolaryngology Fourth Annual Meeting, San Diego, CA, May 17-20, 1989, (with B. Maddern and S. Stool).
4. *The Effect of Steroids or Tissue Precooling on Edema and Tissue Thermal Coagulation after CO₂ Laser Impact*. Presented as a poster at the American Academy of Otolaryngology--Head and Neck Surgery / Association for Research in Otolaryngology Research Forum, San Diego, CA, September 9 - 13, 1990, (with L. Sheppard, S. Mickelson, J. Crissman, E. Peterson, and G. Jacobsen).
5. *Internal Carotid Artery Aneurysms Presenting as Neck Masses*. Presented as a poster at the American Academy of Otolaryngology--Head and Neck Surgery Annual Meeting, San Diego, CA, September 9 - 13, 1990, (with D. Haynes, J. Netterville, and M. Schwaber).
6. *CO₂ Laser Micromanipulator Parallax Error Resolved*. Presented as a poster at the American Academy of Otolaryngology Annual Meeting, Kansas City, MO, September 22-26, 1991, (with J. Duncavage, R. Ossoff, and S. Shapshay).
7. *CO₂ Laser Microtrapdoor Flap Excision of Subglottic Stenosis*. Presented as a poster to the American Society of Pediatric Otolaryngology. Annual Meeting, Combined Otolaryngological Spring Meetings, Palm Desert, CA, April 13-15, 1992, (with D. Weed and R. Ossoff).
8. *Sarcoidosis of the Pediatric Larynx*. Presented as a poster at the American Society of Pediatric Otolaryngology, Combined Otolaryngology Spring Meeting, May 12-13, 1999, Palm Beach, FL (by T. Kenny with J. L. Netterville).
9. *Bilateral Lemierre's Syndrome: A Case Report and Review of the Literature*. Presented as a poster at the Southern Section Meeting, Triologic Society, Jan 11-13, 2001, Marco Island, FL, (by Brian A. Moore with Catherine Dekle).
10. *Mafucci's Syndrome and Cartilaginous Neoplasms of the Trachea*. Presented as a poster at the American Academy of Otolaryngology - Head and Neck Surgery, 105th Annual Meeting, Denver, CO, Sept 9-12, 2001, (by Brian A. Moore with Michael J. Rutter and Robin T. Cotton).

11. *Nasal Crusting as a Presenting Symptom of Ectodermal Dysplasia*. Presented as a poster to the American Society of Pediatric Otolaryngologists. May 27-28, 2005, Las Vegas, NV, (with J Wittkopf and MD Latev).
12. *Jugular Vein Phlebectasia*, Accepted as a poster to the American Academy of Otolaryngology - Head and Neck Surgery, Annual Meeting, Sept 17-20, 2006, Toronto, Ontario, Canada, by Vikas Singh (with J Cutler).

TEACHING: COURSES, SYMPOSIA, AND SEMINARS

1. *Current Applications in Laser Treatment for Cancer*, Midwest Bio-Laser Institute, Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, October 12-13, 1985.
2. *Laser Applications in Podiatric Medicine*, Midwest Bio-Laser Institute, Ravenswood Hospital Medical Center, Chicago, IL, February 15, 1986.
3. *The Use of Lasers in Ophthalmology and Dermatology/Plastic*, 21st Annual Meeting, Association for the Advancement of Medical Instrumentation, Chicago, IL, April 12-16, 1986.
4. *Argon Laser Therapy*, Lasers in Podiatric Medicine, Wenske Laser Center, Ravenswood Hospital Laser Center, Chicago, IL, May 10, 1986.
5. *Argon Laser Therapy*, Lasers in Podiatric Medicine, Wenske Laser Center, Ravenswood Hospital Laser Center, Chicago, IL, June 21, 1986.
6. *Argon Laser Therapy*, Lasers in Podiatric Medicine, Wenske Laser Center, Ravenswood Hospital Laser Center, Chicago, IL, August 2, 1986.
7. *Argon Laser Therapy*, Lasers in Podiatric Medicine, Wenske Laser Center, Ravenswood Hospital Laser Center, Chicago, IL, September 13, 1986.
8. *The YAG Laser: Applications in Gynecology*. Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, September 19-20, 1986.
9. *The Use of Argon Laser in Medicine and Surgery*, Ravenswood Hospital Medical Center, Chicago, IL, October 11, 1986.
10. *Argon Laser Therapy*, Lasers in Podiatric Medicine, Wenske Laser Center, Ravenswood Hospital Laser Center, Chicago, IL, October 25, 1986.
11. *Argon Laser Therapy*, Lasers in Podiatric Medicine, Wenske Laser Center, Ravenswood Hospital Laser Center, Chicago, IL, December 6, 1986.
12. *Lasers in Podiatric Medicine and Cutaneous Disease*, Midwest Bio-Laser Institute and Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, February 21, 1987.
13. *Basic Science Section*, Seventh Annual Meeting, American Society of Laser Medicine and Surgery (Moderator), San Francisco, CA, April 1987.
14. *Lasers in Podiatric Medicine and Cutaneous Disease*, Midwest Bio-Laser Institute and Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, May 9, 1987.
15. *Argon Laser Applications*, Lasers in Surgery and Gynecology, Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, March 18-20, 1988.
16. *ENT Skill Session. Family Practice Refresher Course*. University of Pittsburgh, June 11, 1988.
17. *Argon Laser Applications*, Lasers in Surgery and Gynecology, Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, July 16-17, 1988.
18. *Sleep Apnea in Children; Current Studies in Otitis Media*. Grand Rounds and Resident Teaching Rounds, Department of Otolaryngology-Head and Neck Surgery, Vanderbilt University, Nashville, TN, October 6, 1988.
19. *Upper Respiratory Papillomas in Children, Etiologic, Clinical and Therapeutic Aspects*, Magee-Womens Hospital, Department of Pathology and University of Pittsburgh, Pittsburgh, PA, October 15, 1988.
20. *Sinusitis in Children*. Grand Rounds, Department of Otolaryngology-Head and Neck Surgery, University of Michigan, Ann Arbor, MI, November 9, 1988.
21. *CO₂ Laser Applications in Otolaryngology*. Grand Rounds, Department of Otolaryngology-Head and Neck Surgery, University of Minnesota, Minneapolis, MN, December 10, 1988.

22. *Director, Lasers 1989: An Introduction to the Carbon Dioxide Laser for Surgeons and Allied Personnel.* University of Pittsburgh, Pittsburgh, PA, January 6-7, 1989.
23. *Otolaryngology Consultant to the Federated States of Micronesia.* Patient care, February 1-March 3, 1989.
24. *Visiting Instructor in Otolaryngology.* Pacific Basin Medical Training Program, Colonia, Pohnpei, Micronesia, February 6-17, 1989.
25. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, September 16, 1989.
26. *Advances in Pediatric Otolaryngology, Contemporary Issues in Pediatric Medicine,* Reunion '89, Vanderbilt University Medical Center, Nashville, Tn., October 20, 1989.
27. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I),* Vanderbilt University Medical Center, Department of Otolaryngology, November 16-17, 1989.
28. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, November 18, 1989.
29. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, November 18, 1989.
30. *CO₂ Laser Applications in Surgery,* Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL., January 27, 1990.
31. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I),* Vanderbilt University Medical Center, Department of Otolaryngology, February 8-9, 1990.
32. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, February 10, 1990.
33. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, February 10, 1990.
34. *Physical Exam of the Head and Neck.* Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1990.
35. *Pediatric Sinus Disease, Endoscopic Sinus Surgery Workshop,* Vanderbilt University Medical Center, Department of Otolaryngology, August 10 - 11, 1990.
36. *Medical Management of Otitis Media, Newborn Hearing Screening Workshop,* Vanderbilt University Medical Center, Department of Otolaryngology and Bill Wilkerson Center, August 25-26, 1990.
37. *Endoscopic Evaluation and Treatment of Pediatric Stridor. Pediatric Symposium,* Vanderbilt University Medical Center, Tennessee Chapter of the American Academy of Pediatrics and Tennessee Medical Association, September 14, 1990.
38. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I),* Vanderbilt University Medical Center, Department of Otolaryngology, November 29-30, 1990.
39. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, December 1, 1990.
40. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, December 1, 1990.
41. *Laser Applications in Gynecology and General Surgery,* Wenske Laser Center, Ravenswood Hospital Medical Center, Chicago, IL, December 13-15, 1990.
42. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I and II),* Vanderbilt University Medical Center, Department of Otolaryngology, February 21-23, 1991.
43. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, February 21-23, 1991.
44. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II),* Vanderbilt University Medical Center, Department of Otolaryngology, February 21-23, 1991.

45. *Pediatric Sinus Disease, Endoscopic Sinus Surgery Workshop*, Vanderbilt University Medical Center, Department of Otolaryngology, April 5-6, 1991.
46. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 11-13, 1991.
47. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 11-13, 1991.
48. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1991.
49. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I and II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 10-12, 1991.
50. *Basic Laser Physics, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 10-12, 1991.
51. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 10-12, 1991.
52. *Evaluation and Management of Pediatric Airway Pathology*, 14th Annual Sisson International Head and Neck Workshop, Vail, CO, February 25- March 1, 1992.
53. *Understanding and Comparison of New Laser Wavelengths*, Annual Otolaryngologic Cherry Blossom Conference, Washington, DC, March 19-21, 1992.
54. *Lasers: Fantasy, Fallacy or Reality?* Annual Otolaryngologic Cherry Blossom Conference, Washington, DC, March 19-21, 1992.
55. *Laboratory Instructor*, Annual Otolaryngologic Cherry Blossom Conference, Washington, DC, March 19-21, 1992.
56. *Otitis Media: Natural History and Medical Treatment Including the Role of Prophylaxis*. Cape Cod Conference on Pediatrics, Hyannis, Cape Cod, MA, July 30-August 2, 1992.
57. *Pediatric Sinusitis: Medical vs. Surgical Treatment*. Cape Cod Conference on Pediatrics, Hyannis, Cape Cod, MA, July 30-August 2, 1992.
58. *Use of Lasers in Pediatric Otolaryngology*. Cape Cod Conference on Pediatrics, Hyannis, Cape Cod, MA, July 30-August 2, 1992.
59. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I and II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 2-4, 1992.
60. *Nd:YAG Laser, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 2-4, 1992.
61. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1993.
62. *Endoscopic Management of Pediatric Laryngeal Stenosis*. Management of Chronic Airway Obstruction, Vanderbilt University Medical Center, March 5-6, 1993.
63. *Lasers in Otolaryngology. Laser Surgery Workshop for Nurses*, Vanderbilt University Medical Center, May 13, 1993.
64. *Pediatric Sinus Disease, Endoscopic Sinus Surgery Workshop*, Vanderbilt University Medical Center, Department of Otolaryngology, August 6-7, 1993.
65. *Lasers in Otolaryngology. Laser Surgery Workshop for Nurses*, Vanderbilt University Medical Center, October 7, 1993.
66. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I and II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 21-22, 1993.
67. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, October 23, 1993.
68. *Neonatal Ear Disease*. Universal Infant Hearing Screening, Bill Wilkerson Center and Vanderbilt University School of Medicine, November 13, 1993.

69. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1994.
70. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I and II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 28-29, 1994.
71. *Argon Lasers in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 30, 1994.
72. *Otitis Media: Medical vs. Surgical Management*. Eleventh Annual Family Medicine/Primary Care Update, Vanderbilt University Medical Center, May 20, 1994.
73. *CO2 Laser - Larynx/subglottic Area*. Hands-On Multi-Wavelength Laser Workshop, UCLA School of Medicine, UCLA Medical Center, June 3-4, 1994.
74. *Controversies in Pediatric ENT*. Grand Rounds, Bedford Co. Hospital, Shelbyville, TN, March 2, 1995.
75. *Advanced Skills Session, Otitis Media with Effusion: Sharpening Your Clinical Skills*. National Association of Pediatric Nurse Associates and Practitioners, 16th Annual Nursing Conference on Pediatric Primary Care, Nashville, TN, March 15-16, 1995.
76. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1995.
77. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part I and II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 20-22, 1995.
78. *Nd:YAG Laser in Otolaryngology - Head and Neck Surgery. Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 22, 1995.
79. *Holmium Laser in Otolaryngology - Head and Neck Surgery. Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 22, 1995.
80. *Pediatric Sinus Disease. Endoscopic Sinus Surgery Workshop*, Vanderbilt University Medical Center, Department of Otolaryngology, May 18-19, 1995.
81. *Update in the Use of Lasers in Medicine*. 12th Annual Family Medicine Primary Care Update, Vanderbilt University Medical Center, May 18-21, 1995.
82. *Pediatric Sinusitis*. Grand Rounds, Harton Regional Medical Center, Tullahoma, TN, June 15, 1995.
83. *Pediatric Sinusitis*. Grand Rounds, Clarksville Memorial Hospital, Clarksville, TN, August 18, 1995.
84. *Otitis Media: Medical vs. Surgical Treatment*. Grand rounds, Bowling Green Hospital, Bowling Green, KY, October 18, 1995.
85. *Medical versus Surgical Management of Pediatric Otitis and Sinusitis*. Seventh Annual Infectious Disease Conference for Primary Care Practitioners, University of Alabama, Huntsville Program, Huntsville, AL, October 19, 1995.
86. *Holmium Laser in Otolaryngology - Head and Neck Surgery. and KTP Laser in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, November 4, 1995.
87. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, November 4, 1995.
88. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1996.
89. *Holmium Laser in Otolaryngology - Head and Neck Surgery. and KTP Laser in Otolaryngology - Head and Neck Surgery, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, March 30, 1996.
90. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, March 30, 1996.
91. *Pediatric Sinus Disease. Endoscopic Sinus Surgery Workshop*, Vanderbilt University Medical Center, Department of Otolaryngology, April 18-19, 1996.
92. *Otitis Media*. Grand Rounds, Clarksville Memorial Hospital, Clarksville, TN, September 20, 1996.

93. *Otitis Media*. Grand Rounds, Harton Regional Medical Center, Tullahoma, TN, October 17, 1996.
94. *Lasers in Pediatric Otolaryngology, Lasers in Otolaryngology - Head and Neck Surgery*, Vanderbilt University Medical Center, Department of Otolaryngology, October 31, 1996.
95. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery*, Vanderbilt University Medical Center, Department of Otolaryngology, October 31, 1996.
96. *Moderator, Pediatric Otolaryngology*, The Triologic Society Southern Section Meeting, Captiva Island, FL, January 16-18, 1997.
97. *Pediatric Sinus Disease. Endoscopic Sinus Surgery Workshop*, Vanderbilt University Medical Center, Department of Otolaryngology, April 11, 1997.
98. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1997.
99. *Lasers in Pediatric Otolaryngology, Lasers in Otolaryngology - Head and Neck Surgery*, Vanderbilt University Medical Center, Department of Otolaryngology, April 25, 1997.
100. *Laboratory Instructor, Lasers in Otolaryngology - Head and Neck Surgery (Part II)*, Vanderbilt University Medical Center, Department of Otolaryngology, April 25, 1997.
101. *Pediatric Sinus Disease. Endoscopic Sinus Surgery Workshop*, Vanderbilt University Medical Center, Department of Otolaryngology, August 8, 1997.
102. *Lasers in Pediatric Otolaryngology, Lasers in Otolaryngology - Head and Neck Surgery*, Vanderbilt University Medical Center, Department of Otolaryngology, November 14, 1997.
103. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1998.
104. *Pediatric Otitis Media*. Tennessee Academy of Physician Assistants annual conference. Gatlinberg, TN, October 14, 1998.
105. *Physical Exam of the Head and Neck*. Physical Diagnosis instruction to Second Year Medical Students, Vanderbilt University School of Medicine, Jan.-Apr., 1999.
106. *The Changing Face of Otitis Media: An Interactive Presentation*. Cumberland pediatric Foundation, Vanderbilt University, August 14, 1999.
107. Vanderbilt OR Nurses Lecture, December 13, 2013

RESEARCH

Principal Investigator

- Superpulse CO₂ Histologic Effects; Minnesota Laser, Roseville, MN. Co-Investigator: David M. Harris, Ph.D. Funded \$973.
- A Histological Study of Superpulse CO₂ Laser Tissue Effects; Research Advisory Committee, Children's Hospital of Pittsburgh, Pittsburgh, PA. Co-Investigators: Bruce R. Madden, M.D. and David M. Harris, Ph.D. Funded \$6,282.
- Incidence of Otic Barotrauma in Scuba Divers; Vanderbilt University Otolaryngology Research Fund. Co-Investigators: Michael J. Koriwchak, M.D., Mark R. Widick, M.D.
- Effect of Low Dose He-Ne Laser Illumination on Skin Flap Survival; Dynatronics, Salt Lake City, Utah. Co-Investigator: Donald Weed, M.D., Brian Burkey, M.D., David M. Harris, Ph.D. Funded \$1,528.60.
- Spectroscopy and Ablation of Dental Hard Tissues, Department of Defense, Medical Free Electron Laser. Other Principal Investigators: David M. Harris, Ph.D., Louis Reinisch, Ph.D., Charles Arcoria, D.D.S., Leo Miserendino, D.D.S., Michael Yessick, Ph.D. Funded \$30,000.

Co-Investigator

- Comparison of Oral Cefpodoxime Proxetil (U-76, 252, CD-807) and Penicillin VK in the Treatment of Pharyngitis/Tonsillitis. Upjohn Company. Principal Investigator: Bruce R. Madden, M.D. Co-Investigator: Jay Werkhaven, M.D. Funded \$29,300.
- The Modification of Edema and Depth of Thermal Coagulation in Tissue after Application of CO₂ Laser: Effect of Tissue Pre-cooling vs. Steroids. Henry Ford Foundation. Principal Investigator: Lisa Sheppard, M.D. Co-Investigator: Sam Mickelson, M.D., John Crissman, M.D., Jay Werkhaven, M.D. Funded \$29,478.70.

UNDERGRADUATE RESEARCH

- Lab Assistant, National Institutes of Health, Bethesda, MD, Section on Endocrinology and Reproduction. Angiotensin II Hormone Receptor Analysis, September 1976-December 1976.
- While serving as a control subject for human research in the Normal Volunteer Program, National Institutes of Health, Bethesda, MD. Research Assistant, Section of Psychiatry, Effects of Cocaine and Lidocaine on Kindling in the Rat Limbic System, March 1977-June 1977.
- Assistant, U.S. Department of Agriculture, Delaware, OH, field station. Analysis of sulfur content of plants in urban environments, cultivation and data on tree growth, June 1977-August 1977.

PUBLICATIONS: ARTICLES

1. Werkhaven JA, Harris DM, Krol G, Hill JH: Light Dosimetry in Animal Models, Application to Photodynamic Therapy in Otolaryngology. Laryngoscope, 96:1058-61, 1986.
2. Harris DM, Hill JH, Werkhaven JA, Applebaum EL: Porphyrin Fluorescence and Photosensitization in Head and Neck Cancer. Arch Otolaryngol 112:1194-99, 1986.
3. Werkhaven JA, Harris DM, Lambert DC: Progress Report on the Transmission of 630nm Light Through Human Skin In Vivo. L.I.A., Volume 55 (ICALEO 1986) pp 8-10.
4. Werkhaven JA, Holinger LD: Bronchial Casts in Children. Ann Otol Rhinol Laryngol 96:86-92, 1987.
5. Harris DM, Werkhaven JA: Endogenous Porphyrin Fluorescence in Tumors. Lasers Surg Med 7:467-472, 1987.
6. Hill JH, Werkhaven JA, DeMay R: Hürthle Cell Variant of Papillary Carcinoma of the Thyroid Gland. Otolaryngol Head Neck Surg 98:338-341, 1988.
7. Werkhaven JA, Harris DM: Superpulse CO₂ Laser Tissue Effects. Proceedings of the 2nd International Laser Surgery Congress, Nashville, TN, June 22-24, 1988.
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9. Harris DM, Werkhaven JA: Clinical Consequences of Laser/Tissue Interactions. Proceedings of IEEE Special Symposium on Maturing Technology and Emerging Horizons, New Orleans, LA, Nov 4-7, 1989, pp 26-29.
10. Yerman HM, Werkhaven JA, Schild JA: The Evaluation of Laryngeal Calcium Deposition: A New Methodology. Ann Otol Rhinol Laryngol, 97:516-520, 1988.
11. Werkhaven J, Maddern BR, Stool SE: Posttracheotomy Granulation Managed by Carbon Dioxide Laser Excision. Ann Otol Rhinol Laryngol, 98:890-895, 1989.

12. Maddem BR, Werkhaven J, Wessel HB, Yuniz E: **Infectious Mononucleosis with Airway Obstruction and Multiple Cranial Nerve Paresis.** *Otolaryngology Head Neck Surg* 104:529-532,1991.
13. Ossoff RH, Tucker J, Werkhaven JA: **Neonatal and Pediatric Microsubglottiscope Set.** *Ann Otol Rhinol Laryngol*, 100:325-326,1991.
14. Werkhaven JA, Lee-Polis S: **Bronchoscopy Methods Make Pediatric Cases Practical.** *Clinical Laser Monthly* 9:119-121,1991.
15. Ossoff RH, Werkhaven JA, Raif J, Abraham M: **Advanced Microspot Microslad for the CO₂ Laser.** *Otolaryngology Head and Neck Surg* 105:411-414,1991.
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19. Werkhaven JA, Ossoff RH: **Carbon Dioxide Laser Microtrapdoor Flap for Anterior Glottic Webs.** *Operative Techniques in Otolaryngol Head Neck Surg.* 3(2): 120-122, 1992.
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22. Sorrell MJ, Tribble J, Reinisch L, Werkhaven JA, Ossoff RH: **Bacteria Identification of Otitis Media with Fluorescence Spectroscopy.** *Lasers Surg Med* 14:155-163,1994.
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30. Tobias J, Rasmussen G, O'Dell N, Lowe S, Hersey S, Werkhaven J: **Analgesia Following PE Tube Placement: Preoperative Administration of Acetaminophen Versus Acetaminophen with Codeine.** *Analgesia and Anesthesia* 81: 496-500, 1995.
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PUBLICATIONS: ABSTRACTS

1. Werkhaven JA, Plant R, Harris DM, Fitzgibbons J: Determination of Light Dosimetry in an Animal Model of Photodynamic Therapy. Lasers Surg Med 5:140, 1985.
2. Harris DM, Werkhaven JA: Endogenous Porphyrin Fluorescence, (Potential False-Positive Tumor Localization). Lasers Surg Med 6:235, 1986.
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4. Werkhaven JA, Harris DM, Grossweiner LI: Superpulse CO₂ Laser - Tissue Interaction (A Histologic Study). Lasers Surg Med 7:69-70, 1987.
5. Werkhaven JA, Maddern BR, Harris DM, Kardatzke D: A Histologic Comparison of Superpulse CO₂ and Chopped Continuous Wave CO₂ Laser Tissue Effects. Lasers Surg Med Suppl 2:9,1990.
6. Werkhaven JA, Vrabec JT, Ries WR. Quantitative Measurement of the Edema Effect of Argon and Nd:YAG Laser Impact on Rat Skin. Lasers Surg Med Suppl 2:48,1990.
7. Werkhaven JA: Lasers in Pediatric Otolaryngology. Lasers Surg Med Suppl 4:62, 1992.
8. Sorrell M, Tribble J, Reinisch L, Werkhaven J, Ossoff RH: Bacteria Identification of Otitis Media with Fluorescence Spectroscopy. Lasers Surg Med Suppl 5:39,1993.
9. Reinisch L, Edwards G, Tribble J, Werkhaven JA: Infrared Spectral Analysis of Laryngeal Tissue. Lasers Surg Med Suppl 6:65,1994.
10. Lano C, Werkhaven JA, Stokes D: Fiber Optic Laser Approaches for Unique and Difficult Upper Airway Lesions. Lasers Surg Med Suppl 9:24,1997.

PUBLICATIONS: BOOK CHAPTERS

1. Harris DM, Werkhaven JA: Biophysics and Applications of Medical Lasers. In: EN Myers, CD Bluestone (Eds). Advances in Otolaryngology-Head and Neck Surgery, Volume 3. Chicago, Year Book Medical Publishers, 1989, pp 91-123.
2. Werkhaven J, Ossoff RH: Surgery for Benign Lesions of the Glottis. In: JA Koufman, G Isaacson (Eds). The Otolaryngologic Clinics, WB Saunders Co., Philadelphia, August 1991, pp 1179-1199.
3. Werkhaven J, Ossoff RH: Lasers in Otolaryngology-Head and Neck Surgery. In: WL Meyerhoff, DH Rice (Eds). Otolaryngology: Head and Neck Surgery, WB Saunders Co., Philadelphia, 1992, pp 995-1006.
4. Werkhaven J: Pediatric Laryngotracheal Laser Surgery. In CD Bluestone, SE Stool (Eds.). Atlas of Pediatric Otolaryngology, WB Saunders Co., Philadelphia, 1995, pp 481-514.
5. Werkhaven J, Beste D: Diagnosis and Management of Pediatric Laryngeal Stenosis. In: J Coleman, J Duncavage (Eds.). The Otolaryngologic Clinics, WB Saunders Co., Philadelphia, 1995, pp 797-808.
6. Werkhaven J: Laser Physics, Safety and Applications in Pediatric Otolaryngology. In CD Bluestone, SE Stool, MA Kenna (Eds.). Pediatric Otolaryngology, Third Edition, WB Saunders Co., Philadelphia, 1996, pp1415-1423.
7. Werkhaven J: Myringotomy Tube Placement and Removal. In B Bailey (Ed.). Atlas of Head and Neck Surgery - Otolaryngology, JB Lippincott Co., Philadelphia, 1996, pp 302-303.
8. Hall JW, Chase PA, Werkhaven JA: Sensorineural Hearing Loss in Children: Etiology and Pathology. In Martin FN, Clark JG (Eds.). Hearing Care for Children, Allyn and Bacon, Needham Heights, MA,1996, pp73-91.

9. Ossoff RH, Coleman JA, Courcy MS, Duncavage JA, Werkhaven JA, Reinisch L: **Clinical Applications of Lasers in Otolaryngology - Head and Neck Surgery**. In Puliafito CA (Ed.). *Laser Surgery and Medicine, Principles and Practice*, Wiley-Liss, New York, 1996, pp307-338.
10. Werkhaven JA: **Laser Applications in Pediatric Laryngeal Surgery**. In Ossoff RH, Reinisch L (Eds.). *The Otolaryngologic Clinics*, WB Saunders Co., Philadelphia, 1996, pp1005-1010.
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12. Werkhaven JA: **Adenotonsillar Disease**. In Alper CM, Myers EN, Eibling DE (Ed.). *Decision Making in Ear, Nose, and Throat Disorders*, WB Saunders Co., Philadelphia, 2001, pp146-147.
13. Werkhaven J: **Myringotomy Tube Placement and Removal**. In B Bailey and Calhoun KH (Ed.). *Atlas of Head and Neck Surgery - Otolaryngology*, JB Lippincott Co., Philadelphia, 2001, pp 304-305.
14. Werkhaven J: **Pediatric Laryngotracheal Laser Surgery**. In CD Bluestone, RM Rosenfeld (Eds.). *Surgical Atlas of Pediatric Otolaryngology*, WB Saunders Co., Philadelphia, 2002, pp 633-669.
15. Landsman IS, Werkhaven J, Motoyama E: **Anesthesia for Pediatric Otorhinolaryngologic Surgery**. In Motoyama, EK and Davis, PJ ed. *Smith's Anesthesia for Infants and Children*. Mosby, New York: pp. 789-822, 2006.
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PUBLICATIONS: INVITED ARTICLES

1. Werkhaven J: **A Brief Overview of Pediatric Sinusitis**. *Sinus Newsletter*, J Duncavage (Ed.), Vanderbilt University, February, 1995.

PRESENTATIONS

1. *Photoradiation Therapy in Head and Neck Cancer*. Presented at the 40th Annual Midwest Clinical Conference, March 1984, Chicago, IL (presented by J. Hill).
2. *Determination of Light Dosimetry in an Animal Model of Photodynamic Therapy*. American Society for Laser Medicine and Surgery, 5th Annual Meeting, Orlando, FL, May 1985, (with R. Plant, D. Harris, and J Fitzgibbons).
3. *Light Dosimetry in Animal Models, Application to Photodynamic Therapy in Otolaryngology*. Presented at the Triologic Society Middle Section meeting, January 24-26, 1986, Chicago, IL, (with D. Harris, G. Krol, and J. Hill).
4. *Endogenous Porphyrin Fluorescence (Potential False-Positive Tumor Localization)*. American Society for Laser Medicine and Surgery, 6th Annual Meeting, Boston, MA, May 1986 (with D. Harris).
5. *Bronchial Casts in Children*. Presented to the American Bronchoesophologic Association, Combined Otolaryngologic Spring Meeting, May 1986, (with L. Holinger).
6. *Late Metastases of Hürthle Cell Carcinoma (Papillary Pattern) of the Thyroid Gland*. Presented as a poster to the American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, September 1986 (with J. Hill).
7. *Porphyrin Fluorescence and Photodynamic Therapy*. Presented as a scientific exhibit to the American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, September 1986 (with J. Hill).

8. *Progress Report on the Transmission of 630 nm Light Through Human Skin In Vivo*. Presented to the Laser Institute of America, ICALEO 1986, Washington, D.C., November 1986 (presented by D. Harris).
9. *Superpulse CO₂ Laser - Tissue Interaction (A Histologic Study)*. 7th Annual Meeting, American Society for Laser Medicine and Surgery, San Francisco, CA, April 11-13, 1987 (with D. Harris).
10. *Laser Applications in Otolaryngology-HNS*. 44th Annual Midwest Clinical Conference of the Chicago Medical Society, Chicago, IL, March 4-6, 1988.
11. *Lasers and the Future*. 44th Annual Midwest Clinical Conference of the Chicago Medical Society, Chicago, IL, March 4-6, 1988.
12. *Superpulse CO₂ Laser*. 2nd International Laser Surgery Congress, Vanderbilt University Medical Center, Nashville, TN, June 22-24, 1988.
13. *CO₂ Laser and Potentially Hemorrhagic Lesions*. Mini-Seminars in Otolaryngology, Eye and Ear Institute of Pittsburgh, Pittsburgh, PA, March 8, 1989.
14. *Post-Tracheotomy Suprastomal Granulation Managed by Carbon Dioxide Laser Excision*. Annual Meeting of the American Broncho-Esophagological Association, San Francisco, CA, April 3, 1989, (presented by B. Maddern with S. Stool).
15. *AIDS-ENT*. Pennsylvania Academy of Ophthalmology and Otolaryngology 45th Annual Meeting, Pittsburgh, PA, April 13-15, 1989.
16. *Choosing a Laser for Your Practice*. Instructional course, American Academy of Otolaryngology-Head and Neck Surgery Annual Meeting, New Orleans, LA, September 24, 1989 (with B. Maddern and D. Harris).
17. *Familial Laryngeal Webs*, Southern Medical Association, Washington, D.C., October 14-16, 1989, (presented by A. Aly with J. Netterville).
18. *A Histologic Comparison of Superpulse CO₂ and Chopped Continuous Wave CO₂ Laser Tissue Effects*, Tenth Annual Meeting, American Society for Laser Medicine and Surgery, Nashville, TN, April 6-8, 1990, (with B. Maddern and D. Harris).
19. *Quantative Measurement of the Edema Effect of Argon and Nd:YAG Laser Impact on Rat Skin*, Tenth Annual Meeting, American Society for Laser Medicine and Surgery, Nashville, TN, April 6-8, 1990, (with R. Ries and J. Vrabec).
20. *Cervical Aneurysms Masquerading as Inflammatory Neck Masses*, Tennessee Medical Association 155th Annual Meeting, Knoxville, TN, April 4-7, 1990, (presented by D. Haynes with J. Netterville).
21. *Neonatal and Pediatric Microsubglottiscope Set*, Annual Meeting of the American Broncho-Esophagological Association, Palm Beach, FL, May 2-3, 1990, (presented by R. Ossoff with J. Tucker).
22. *New Horizons for Laser Research in Otolaryngology*. Instructional Course, American Academy of Otolaryngology -- Head and Neck Surgery Annual Meeting, San Diego, CA, September 12, 1990 (with R. Ossoff and D. Gonzalez).
23. *Choosing a Laser for Your Practice*. Instructional course, American Academy of Otolaryngology--Head and Neck Surgery Annual Meeting, San Diego, CA, September 12, 1990 (with B. Maddern and D. Harris).
24. *Choosing a Laser for Your Practice*. Instructional course, American Academy of Otolaryngology--Head and Neck Surgery Annual Meeting, , Kansas City, MO, September 22-26, 1991, (with B. Maddern and D. Harris)
25. *Comprehensive Management of Subglottic-Tracheal Stenosis: Open and Closed Techniques*. Instructional course, American Academy of Otolaryngology--Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991 (with J. Duncavage and R. Ossoff).
26. *New Horizons for Laser Research in Otolaryngology*. Instructional Course, American Academy of Otolaryngology - Head and Neck Surgery Annual Meeting, Kansas City, MO, September 22-26, 1991, (with R. Ossoff and D. Gonzalez).
27. *Middle Ear Barotrauma in Scuba Divers*. Annual Meeting of the Triological Society, Combined Otolaryngological Spring Meetings, Palm Desert, CA, April 16 1992, (presented by M. Koriwchak).

28. *Lasers in Pediatric Otolaryngology*. Twelfth Annual Meeting, American Society for Laser Medicine and Surgery. Lake Buena Vista, FL, May 17-19, 1992.
29. *New Horizons for Laser Research in Otolaryngology*. Instructional Course, American Academy of Otolaryngology – Head and Neck Surgery Annual Meeting, Washington, DC, September 13-17, 1992, (with R. Ossoff and D. Gonzalez).
30. *Comprehensive Management of Subglottic-Tracheal Stenosis: Open and Closed Techniques*. Instructional course, American Academy of Otolaryngology–Head and Neck Surgery Annual Meeting, Washington, DC, September 13-17, 1992, (with J. Duncavage and R. Ossoff).
31. *Soft Tissue Ablation with the Vanderbilt Free-Electron Laser*. American Physical Society, Seattle, WA, March, 1993, (presented by G. Edwards, with B. Johnson, M. Mendenhall, J. Tribble, R. Logan, D. O'Day, M. Coplan, R. Maciunas, R. Ossoff, and L. Reinisch).
32. *Pediatric Endoscopic Laryngology*. Annual Meeting of the Tennessee Academy of Otolaryngology - Head and Neck Surgery, Knoxville, TN, April 16, 1993.
33. *Bacteria Identification of Otitis Media with Fluorescence Spectroscopy*. American Society for Laser Medicine and Surgery, New Orleans, LA, April 18-20, 1993, (presented by M. Sorrell, with J. Tribble, L. Reinisch, and R. Ossoff).
34. *Interstitial Nd:YAG Photocoagulation for Vascular Malformations and Cavernous Hemangiomas*. American Academy of Facial Plastic and Reconstructive Surgery, 6th International Symposium of Facial Plastic Surgery, San Francisco, CA, June 17, 1993, (presented by R. Ries, with V. Quatela, and D. Toriumi).
35. *Comprehensive Management of Subglottic-Tracheal Stenosis: Open and Closed Techniques*. Instructional course, American Academy of Otolaryngology–Head and Neck Surgery Annual Meeting, Minneapolis, MN, October 2-6, 1993, (with J. Duncavage and R. Ossoff).
36. *Infrared Spectral Analysis of Laryngeal Tissue*. American Society for Laser Medicine and Surgery, Toronto, Canada, April 8-10, 1994, (presented by L. Reinisch, with G. Edwards, and J. Tribble).
37. *Transient Blindness Associated with Sinus Barotrauma in a Scuba Diver*. Presented as a poster at the American Academy of Otolaryngology–Head and Neck Surgery Annual Meeting, San Diego, CA, September 18-21, 1994, (with M. Koriwchak).
38. *Comprehensive Management of Subglottic-Tracheal Stenosis: Open and Closed Techniques*. Instructional course, American Academy of Otolaryngology–Head and Neck Surgery Annual Meeting, San Diego, CA, September 18-21, 1994, (with J. Duncavage and R. Ossoff).
39. *Analgesia Following PE Tube Placement: Preoperative Administration of Acetaminophen Versus Acetaminophen with Codeine*. International Anesthesia Research Society, Honolulu, HA, March 1995, (presented by J. Tobias with G. Rasmussen, N. O'Dell, S. Lowe and S. Hersey).
40. *Comprehensive Management of Subglottic-Tracheal Stenosis: Open and Closed Techniques*. Instructional course, American Academy of Otolaryngology–Head and Neck Surgery Annual Meeting, New Orleans, LA, September 17-21, 1995, (with J. Duncavage and R. Ossoff).
41. *Otolaryngologic Implications of a Patient with Hecht Syndrome*. Presented as a poster at the Southern Medical Association 90th Annual Scientific Assembly, Baltimore, MD, November 20-24, 1996, (presented by C. Lano).
42. *Fiber Optic Laser Approaches for Unique and Difficult Upper Airway Lesions*. American Society for Laser Medicine and Surgery, Phoenix, AZ, April 3-6, 1997, (with C. Lano and D. Stokes).
43. *Ablation of Teflon Granuloma near 8.5 Microns Using the Free-electron Laser*. American Broncho-esophologic Association, Phoenix, AZ, May 13-14, 1997, (presented by G.L. Bryant with R.H. Ossoff and L. Reinisch).
44. *Critical Issues in Respiratory Infections - Drug Resistance and Drug Utilization*. American Academy of Otolaryngology - Head and Neck Surgery, 101st Annual Meeting, San Francisco, CA, September 8, 1997, (with R. Otto and M. Poole).
45. *Preservation of Function and Histologic Appearance in the Injured Glottis with Topical Mitomycin C*. 1st Prize: James A. Harrill Award, Southern Section Meeting, Triologic Society, Jan 14-16, 1999, New Orleans,

LA, (Presented by JE Spector with L Reinisch, S Huang, NC Spector, RN Page, B Baranowski, and B McGehee).

46. *Mafucci's Syndrome and Cartilaginous Neoplasms of the Trachea*. Presented at the American Academy of Pediatrics Annual Meeting, San Francisco, CA, October 19-21, 2001, (by Brian A. Moore with Michael J. Rutter and Robin T. Cotton).
47. *MicroLaryngoscopy: Airway Management with Anesthetic Techniques and CO₂ Laser*. Presented at the 4th International Symposium on the Pediatric Airway. Pittsburgh, PA, April 26-28, 2002.
48. *Use of AlloDerm in Type I Tympanoplasty: A Comparison to Native Tissue Grafts*. Southern Section Meeting, Triologic Society, Jan 13-15, 2005, Miami, FL. (by Jeremy D. Vos, with MD Latev, RF Labadie, SM Cohen, and DH Haynes).
49. *Tracheotomy in the First Year of Life: Outcomes in Term Infants, the Vanderbilt experience*. American Academy of Otolaryngology - Head and Neck Surgery, Annual Meeting, Sept 25-29, 2005, Los Angeles, CA, by Christopher Wooten, (with L French, R Thomas, W Neblett 3rd, and S Cofer).
50. *Tracheotomy in the Preschool Population – Indications and Outcomes*. Accepted American Academy of Otolaryngology - Head and Neck Surgery, Annual Meeting, Sept 17-20, 2006, Toronto, Ontario, Canada, by Christopher Wooten, (with L French, W Neblett 3rd, and S Cofer).

OTHER ACTIVITIES

Journal Editorial Review Board

1. Otolaryngology-Head and Neck Surgery, 1991-

Journal Refereeing

1. Otolaryngology-Head and Neck Surgery, (Case reports), 1988

Committees

1. American Academy of Otolaryngology, SIPac Faculty 1991- 1995
2. American Broncho-Esophological Association, Technology Assessment Committee 1997-1999.
3. EPSDT (Early Periodic Screening, Detection and Treatment) Committee, State of Tennessee, Department of Health, Bureau of TennCare, Oct 1998-Sept 1999.
4. Credentials Committee, Vanderbilt University Medical Center, 2000- present.
5. Credentials Committee, Vanderbilt Medical Group, 2000- present.
6. Credentials Committee, Vanderbilt Children's Hospital, 2001- 2008.
7. Credentials Committee, Cigna Healthcare, Midsouth Section, 2001 - 2002.
8. Perioperative Services Committee, Vanderbilt Children's Hospital, 2001- present.
9. EPSDT (Early Periodic Screening, Detection and Treatment) Committee, State of Tennessee, Department of Health, Bureau of TennCare, 2003-2004.
10. Credentials Committee, Chairman, Vanderbilt Children's Hospital, 2004- 2005.
11. Credentials Committee, Deputy Chairman, Vanderbilt Children's Hospital, 2005- 2008.
12. Head and Neck Cancer Screen, Vanderbilt Medical Center, 2013
13. Star Panel "Combo" Evaluation Program, 2013

Elected Positions

1. Secretary/Treasurer, Nashville Otolaryngologic Society, 1997-1999.
2. President, Nashville Otolaryngologic Society, 2000-2001.

Dianne Dowdy, RN
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May 1, 2014

EXPERT WITNESS REPORT

LOVELACE V. PEDIATRIC ANESTHESIOLOGISTS, ET. AL,

I have been retained to provide expert testimony in this case on behalf of the defendants, Pediatric Anesthesiologists, PA, Babu Rao Paidipalli, M.D. and Mark Clemons, M.D.. I am familiar with the recognized standard of acceptable professional practice for a PACU nurse providing care to a patient such as Brett Lovelace as it existed in March 2012 in Memphis, Shelby County, Tennessee. My qualifications are set forth in my curriculum vitae attached to this report.

In forming my opinions I reviewed the following:

1. Complaint
2. Medical Records of Brett Lovelace
3. Agreed Order entered by Tennessee Board of Nursing from investigation of Kelly Kish, RN
4. Photographs of Brett Lovelace

The facts I considered in forming my opinions are as follows:

At approximately 10:35 a.m. on March 12, 2012, the care of Brett Lovelace, a 12 year old male, was transferred to Lebonheur's PACU nurse Kelly Kish, RN who at that point in time became the primary caregiver for the patient. Brett Lovelace had undergone surgery to remove his tonsils and adenoids. On admission to the PACU his vital signs were normal. At some point either during transfer to the PACU or upon arrival in the PACU, the patient had repositioned himself to a prone position. The patient's blood pressure at 11:03 a.m. was recorded as 118/56; at 11:20 a.m. it was 106/53. At 11:34 a.m. his blood pressure dropped to 84/42. Kelly Kish did not contact anesthesia to notify them of drop in blood pressure. Brett Lovelace coded at 12:15 p.m.

It is my opinion that the PACU nurse, Kelly Kish, deviated from the recognized standard of acceptable professional practice by:

- 1) failing to put Brett Lovelace on a cardiac monitor upon admission to the PACU, based upon the type of surgery that was performed;

- 2) failing to raise the head of the bed to facilitate drainage from the area of surgery;
- 3) failing to insure that the patient's head was turned to the side when he was in a prone position and allowing him to lie face down;
- 4) failing to notify Anesthesia personnel when the patient's blood pressure dropped to 84/42 as recorded by Kelly Kish at 11:34 a.m.;
- 5) failing to check the patient's vital signs every five minutes or more often, after 11:34 a.m. when his blood pressure dropped to 84/42;
- 6) failing to replace the probe in the pulse oximeter when she became aware that the pulse oximeter was not working properly and if she determined the probe was not the problem (as stated in the Agreed Order), failing to switch out the machine and to assess the patient's respiratory status;
- 7) failing to arouse the patient when she checked vital signs (in the Agreed Order Kelly Kish admitted that while she recorded that Brett was "arousable" when she checked vital signs she admitted she did not attempt to arouse the patient at those times resulting in an incorrect Aldrette score). A PACU nurse should attempt to arouse the patient each time the nurse checks and records the vital signs, which should be done q 15 minutes during the first hour of admission to PACU and q 30 minutes during the second hour of admission;
- 8) her making false entries in the medical chart;
- 9) relying upon readings from an automated blood pressure cuff instead of rechecking the blood pressure or using a stethoscope to manually check the blood pressure. Also, not using a stethoscope to assess the breath sounds, front and back; and
- 10) failing to take any action when she heard "gasping sounds". The standard of care required her to reposition the patient to a supine position and assess the airway.

There were no deviations by any other provider.

The opinions stated above regarding the deviations from the recognized standard of acceptable professional practice of a PACU nurse practicing in Memphis, Shelby County, Tennessee in March 2012 are based upon my education, my training and experience, my review of the medical records, Agreed Order entered by the Tennessee Board of Nursing, and the photographs of Brett Lovelace.

I will offer additional opinions in this case as follows:

Physicians and CRNA's rely upon the skill level of a PACU nurse as it requires specialized skills. Medical providers rely upon the hospital to appropriately staff the PACU with experienced, qualified, skilled nurses.

It is my opinion that Grace Freeman, CRNA properly and in accordance with the standard of care, transferred care of Brett Lovelace to Kelly Kish at the time she

gave report to Kelly Kish, RN at approximately 10:35 a.m. on March 12, 2012. At that point Kelly Kish became the primary caregiver for the patient and the standard of care required that she notify the Anesthesia team if there was any kind of problem with the patient's breathing.

It is acceptable, and within the standard of care, to allow Brett Lovelace to remain in a prone position after he naturally repositioned himself to that position. The medical records show that the patient was adequately ventilating in this position and that his vital signs were good at the time Grace Freeman, CRNA left the PACU after turning over the care to Kelly Kish. The standard of care required Kelly Kish to monitor his vital signs and airway status in order to judge whether to leave him in the prone position or move him to a supine position.

I have not testified in a deposition or at trial in the past four years.

I charge \$75 per hour for review of cases and \$275 per hour for testifying.


DIANNE DOWDY, RN

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utcottonmom@aol.com

PROFESSIONAL SUMMARY

Registered Nurse

- Highly skilled career professional with 26 years experience in hospital, outpatient surgery, and Infection Prevention / Employee Health experience.
- Enthusiastic caregiver-Experience includes Critical Care, PACU, Ambulatory Care.
- Previous manager in ICU and PACU/Ambulatory areas-able to manage teams in both areas; successful outcomes in patient and employee satisfaction. Flexible staffing efforts, PI, evaluation of staff, coaching/mentoring new graduates. Caring for critically ill and post-op patients independently and along with other health care teams.
- Infection Prevention: Computer skilled; knowledge in use of Theradoc programs, reporting to Health Department and NHSN. Employee health Nurse for 400+ employees. Reporting and guidance for work related injuries, immunizations and health screens.

CREDENTIALS

License-State of TN

1987

ACLS Instructor
CPR Instructor

PROFESSIONAL EXPERIENCE

RN staff nurse Infection Control/Employee Health

10/2008-
current

Baptist Hospital, Collierville, TN

RN staff nurse-PACU/Ambulatory supplemental staffing

2001-current

Baptist Hospital, Collierville, TN

Head Nurse-PACU/Ambulatory

1999-2001

Baptist Hospital, Collierville, TN

RN-supplemental staffing ICU/PACU

OR Nurses, INC, Memphis, TN

Head Nurse-PACU

1998-1999

East Memphis Surgery Center Memphis, TN

RN staff nurse-PACU

1992-1998

Baptist Hospital, Germantown, TN

1991-1992

Head Nurse, SICU

Baptist Memorial Hospital, Memphis, TN

1990-1991

RN Staff Nurse SICU

1987-1990

Baptist Memorial Hospital, Memphis, TN

EDUCATION

South University	
Online program to obtain BSN-schedule to complete 7/14	2013-current
Diploma in Nursing-RN	
<i>Baptist Memorial Hospital School of Nursing</i>	1987
Memphis State University	
Undergraduate pre-requisite courses for nursing	1982-1984

AFFILIATIONS

APIC	
Member of Fayette County Board of Health	2012-current 2010-current

COMMUNITY SERVICE

CPR classes in community	
Community Health Fairs	2000-current
Community event first aid tents	

References:

Lynne Lancaster, RN CIC Manager, Infection Control/Employee Health

Baptist Hospital Collierville (901-861-8880)

Margie Tubbs, BSN, RN Head Nurse Ambulatory

Baptist Hospital Collierville (901-861-8830)

EXPERT WITNESS REPORT

May 5, 2014

RE: Report of Expert Opinions in the matter of *Daniel Lovelace and Helen Lovelace, Individually, and as Parents of Brett Lovelace, deceased v. Pediatric Anesthesiologists, P.A., Babu Rao Paidipalli, M.D. and Mark Clemons, M.D.*

I have been asked to review the report of Jay Marsh concerning Brett Lovelace and the economic impact of his death on March 14, 2012 at age 12 years 6 months. Additionally, I have reviewed depositions, medical records, and discovery documents concerning the deceased. My qualifications are listed in my resume, which is incorporated by reference. I have also created two Excel Spreadsheet Tables, which are referenced below, to help explain my opinions and they are incorporated by reference.

I have no previous testimonial history.

I am being compensated at a rate of \$200 per hour for review and formulating my opinions. I will be compensated at a rate of \$200 per hour plus expenses for trial. The compensation is based solely on the hours I have worked on the case and is not contingent on the outcome of the litigation.

The following is a summary of my opinions to a reasonable degree of economic certainty:

Mr. Marsh offers six tables representing various assumptions in regards to the likely earning capacity of Brett S. Lovelace, should he have survived. There are numerous assumptions made within each of the table groupings worthy of recalculation, but let me address the two table groupings first.

Table grouping 1, which encompasses tables 1, 3, and 5, represents a full time, year round white male worker. The tables are additionally bound by an assumption that Mr. Lovelace would become employed at age 18.69, and continue working until retirement age of either 66.69 or 69.69. Table 1 further assumes a high school diploma, table 3 assumes some college education, and table 5 assumes a bachelor's degree.

Table grouping 1 does not take into account any periods of unemployment, underemployment, or other circumstances that occur at various stages in one's employable lifecycle and which would prevent Mr. Lovelace, at least periodically, from earning a paycheck commiserate with his skills and educational level. This omission alone warrants dismissal of Table Grouping 1 without further evaluating the numerous assumptions made within this table grouping.

Table grouping 2, which encompasses tables 2, 4, and 6, adds two additional components to those tables offered in table grouping 1; 1) A Survival and Labor Force Participation Factor; and 2) An Employment Factor. These two factors better represent periods of unemployment, underemployment and other factors that would prevent Mr. Lovelace from periodically earning a paycheck commiserate with his skill and educational level. His "worklife" is calculated from age 18.69 through 76.69.

Accepting the Infrastructure of table grouping 2 as more representative of the likelihood of Mr. Lovelace's earning capacity over his working lifetime, further review of the three tables within table grouping 2 is required.

The presumption that a 6th grade child that was diagnosed with Oppositional Defiant Disorder (ODD), was diagnosed with a learning disability called Non-Verbal Transfer Disorder (NVLD) (cannot understand what he reads), was diagnosed with Attention Deficient Hyperactivity Disorder (ADHD), was held back in kindergarten, was assigned to special education classes, was reading at a 2nd grade level while attending the 6th grade, and intended to drop out of school after the 10th grade, prevents me from accepting the notion that Mr. Lovelace might eventually attain a bachelor's degree as a legitimate representation of his true earning capacity. Therefore table 6 has no relevancy.

Furthermore, I believe it just as likely that Mr. Lovelace would not complete his high school education as he would attend college for some period of time. He professed on several occasions to his mental health professionals that "I'm gonna drop out of school in the 10th grade", that he "sleeps in his classes because he is bored", and he "doesn't care if I fail this year" among other signs of the lack of educational aspirations. Because of his educational attitude, along with his aforementioned disabilities and diagnoses, table 4 has little relevance.

Using Table 2 (Present Value of High School Earnings Net of Personal Maintenance, Worklife – Expected Value) as the closest offered representation of the likely earning power of Mr. Lovelace should he have survived, looking at the other assumptions made within it is worthwhile. Accepting columns A (Beginning of Year Age), B (Fraction of Year), E (Survival and Labor Force Participation Factor), and F (Employment Factor) as offered, and columns G (Total Adjusted Net Earnings – Current \$), I (Present Value of Net Earnings – Current \$), and J (Cumulative Present Value of Net Earnings – Current \$) as calculations based on the variable inputs, we must then look at columns C (Annual Earnings – Current \$), D (Personal Maintenance Factor), and H (Present Value Factor).

Column C (Annual Earnings – Current \$) for the first illustration, I have left the offered numbers of Mr. Marsh unchanged (high school diploma). For the second illustration, 9th to 12th grade – no diploma, appropriate numbers from the aforementioned Census Data are used. As previously mentioned, the lack of a high school diploma or GED reduces, on average, earning potential by 25%.

Column D (Personal Maintenance Factor) is offered at 27.34%. This is based on a percentage of income before taxes (\$32,780) versus personal expenses including the annual cost of food (\$3,460), apparel (\$975), transportation (\$4,182), and personal care products (\$345). What is fails to include, from the same offered source, is alcoholic beverages (\$355), housing (\$11,388), healthcare (\$2,007), entertainment (\$1,510), reading (\$87), education (\$492), tobacco (\$253), miscellaneous (\$565), cash contributions (\$1,268), and personal insurance and pensions (\$2,518), which equates to average annual expenditures of \$29,405 or 89.70%. Furthermore, another questionable assumption made is that Mr. Lovelace would be a one person consumer unit without kids, spouse, or any other dependent, other than himself, for life. Any additional dependents would further raise the Personal Maintenance Factor. For the purposes of my illustrations I will use the 89.70%, more accurate factor.

Column H (Present Value Factor) or net discount rate is offered at 2.414008%, assuming an annual cost of living earnings increase of 3.69% and interest rate of 6.19%. The present value factor greatly affects the calculation of column 9 (Present Value of Net Earnings – Current \$) as it represents the discount rate when calculating the present value of future earnings. A higher Present Value Factor will correspondingly mean a lower Present Value of Net Earnings – Current \$. A more appropriate discount rate would be higher than the offered 2.4% rate. What that rate should be is arguable, but raising the discount rate to 3%, by way of example, would lower the Cumulative Present Value of Net Earnings – Current \$ from \$74,191.92 to

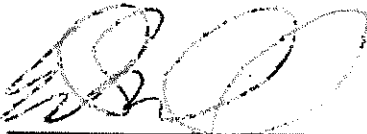
\$63,211.68. Using a 4% discount would lower it to \$48,765.60. Even 4% could be considered an overly conservative discount rate, but for the purposes of my illustrations I have used a discount rate of 3.5%.

In illustration 1 (excel tab "High School") I used Mr. Marsh's offering in Table 2 as a baseline but amended columns D and H to more accurately reflect a true representation of the variables Personal Maintenance Factor and Present Value Factor. The amended calculations result in Column J (Cumulative Present Value Net Earnings – Current \$) showing a value of \$55,489.64 rather than the \$524,638.37 offered by Mr. Marsh.

Mr. Marsh chose not to create a table within Table group 2 that represents Mr. Lovelace's earning capacity, if Mr. Lovelace were to fail to complete his high school education, despite the fact that the information was readily available from the same source in which the other three categories of educational attainment were acquired (source is the United States Department of Commerce, Census Bureau, Table PINC-04, Educational Attainment – People 18 Years Old and Over, by Total Money Earnings in 2010, Work Experience in 2010, Age, Race, white Origin and Sex). As represented by those same statistics and source, on average, failure to attain a high school degree or GED would reduce one's earning capacity by 25% versus a high school diploma or GED.

In illustration 2 (excel tab "9th to 12th Grade – No Diploma") I used Mr. Marsh's offering in Table 2 as a baseline but amended columns C, D and H to more accurately reflect a true representation of the variables Annual Earnings – Current \$, Personal Maintenance Factor and Present Value Factor. The amended calculations result in Column J (Cumulative Present Value Net Earnings – Current \$) showing a value of \$41,617.23.

In summary, and in consideration of all variables and statistics utilized, I place the appropriate evaluation of economic losses in the case of Brett Spencer Lovelace between \$41,617.23 and \$55,489.64.



Edward L. Brundick, III

9th to 12th Grade - No Diploma

Cumulative
Present
Value
Net
Earnings
(Current \$)
Age 76

\$ 41,617.23

Beginning of Year Age	Fraction of Year	Annual Earnings (Current \$)	Personal Maintenance Factor 89.70%	Survival and Labor Force Participation Factor	Employment Factor
12.69	0.00	\$ -	1.000000	0.999873	0.000000
13.69	0.00	\$ -	1.000000	0.999606	0.000000
14.69	0.00	\$ -	1.000000	0.999202	0.000000
15.69	0.00	\$ -	1.000000	0.998653	0.000000
16.69	0.00	\$ -	1.000000	0.980013	0.825000
17.69	0.00	\$ -	1.000000	0.846636	0.825000
18.69	0.92	\$ 12,631.86	0.102959	0.753054	0.861000
19.69	1.00	\$ 14,288.40	0.102959	0.736388	0.861000
20.69	1.00	\$ 15,902.55	0.102959	0.736635	0.913000
21.69	1.00	\$ 17,460.77	0.102959	0.758469	0.913000
22.69	1.00	\$ 18,963.01	0.102959	0.784422	0.913000
23.69	1.00	\$ 20,409.21	0.102959	0.815532	0.913000
24.69	1.00	\$ 21,799.34	0.102959	0.832369	0.913000
25.69	1.00	\$ 23,133.32	0.102959	0.833842	0.953000
26.69	1.00	\$ 24,411.13	0.102959	0.841527	0.953000
27.69	1.00	\$ 25,632.70	0.102959	0.847274	0.953000
28.69	1.00	\$ 26,797.99	0.102959	0.850649	0.953000
29.69	1.00	\$ 27,906.95	0.102959	0.853476	0.953000
30.69	1.00	\$ 28,959.53	0.102959	0.856574	0.953000
31.69	1.00	\$ 29,955.67	0.102959	0.855076	0.953000
32.69	1.00	\$ 30,895.34	0.102959	0.860727	0.953000
33.69	1.00	\$ 31,778.47	0.102959	0.86754	0.953000
34.69	1.00	\$ 32,605.03	0.102959	0.871185	0.953000
35.69	1.00	\$ 33,374.96	0.102959	0.868665	0.964000
36.69	1.00	\$ 34,088.20	0.102959	0.863633	0.964000
37.69	1.00	\$ 34,744.72	0.102959	0.857428	0.964000
38.69	1.00	\$ 35,344.46	0.102959	0.848545	0.964000
39.69	1.00	\$ 35,887.37	0.102959	0.843694	0.964000
40.69	1.00	\$ 36,373.40	0.102959	0.832609	0.964000
41.69	1.00	\$ 36,802.51	0.102959	0.818714	0.964000
42.69	1.00	\$ 37,174.64	0.102959	0.804725	0.964000

43.69	1.00	\$ 37,489.73	0.102959	0.797453	0.964000
44.69	1.00	\$ 37,747.76	0.102959	0.797165	0.964000
45.69	1.00	\$ 37,948.66	0.102959	0.795666	0.965000
46.69	1.00	\$ 38,092.38	0.102959	0.789387	0.965000
47.69	1.00	\$ 38,178.88	0.102959	0.783058	0.965000
48.69	1.00	\$ 38,208.10	0.102959	0.771316	0.965000
49.69	1.00	\$ 38,180.00	0.102959	0.761729	0.965000
50.69	1.00	\$ 38,094.51	0.102959	0.752316	0.965000
51.69	1.00	\$ 37,951.61	0.102959	0.730047	0.965000
52.69	1.00	\$ 37,751.24	0.102959	0.709433	0.965000
53.69	1.00	\$ 37,493.33	0.102959	0.690955	0.965000
54.69	1.00	\$ 37,177.86	0.102959	0.672892	0.965000
55.69	1.00	\$ 36,804.76	0.102959	0.653713	0.963000
56.69	1.00	\$ 36,373.99	0.102959	0.63317	0.963000
57.69	1.00	\$ 35,885.50	0.102959	0.597273	0.963000
58.69	1.00	\$ 35,339.24	0.102959	0.552459	0.963000
59.69	1.00	\$ 34,735.15	0.102959	0.506133	0.963000
60.69	1.00	\$ 34,073.19	0.102959	0.451887	0.963000
61.69	1.00	\$ 33,353.31	0.102959	0.392075	0.963000
62.69	1.00	\$ 32,575.46	0.102959	0.338965	0.963000
63.69	1.00	\$ 31,739.59	0.102959	0.290938	0.963000
64.69	1.00	\$ 30,845.66	0.102959	0.255208	0.963000
65.69	1.00	\$ 29,893.59	0.102959	0.234105	0.965000
66.69	1.00	\$ 28,883.36	0.102959	0.216511	0.965000
67.69	1.00	\$ 27,814.91	0.102959	0.201023	0.965000
68.69	1.00	\$ 26,688.20	0.102959	0.195457	0.965000
69.69	1.00	\$ 26,177.33	0.102959	0.17963	0.965000
70.69	1.00	\$ 26,177.33	0.102959	0.159306	0.965000
71.69	1.00	\$ 26,177.33	0.102959	0.153022	0.965000
72.69	1.00	\$ 26,177.33	0.102959	0.174036	0.965000
73.69	1.00	\$ 26,177.33	0.102959	0.303814	0.965000
74.69	1.00	\$ 26,177.33	0.102959	0.973465	0.965000
75.69	1.00	\$ 26,177.33	0.102959	0.772022	0.965000
76.69	1.00	\$ 26,177.33	0.102959	0.115737	0.965000

Differing assumptions from Mr. Marsh's Chart 2

Total Adjusted Net Earnings (Current \$)	Present Value Factor <u>0.035</u>	Present Value of Net Earnings (Current \$)	Cumulative Present Value Net Earnings (Current \$)
\$ -	0.966184	\$ -	\$ -
\$ -	0.933511	\$ -	\$ -
\$ -	0.901943	\$ -	\$ -
\$ -	0.871442	\$ -	\$ -
\$ -	0.841973	\$ -	\$ -
\$ -	0.813501	\$ -	\$ -
\$ 775.80	0.785991	\$ 609.77	\$ 609.77
\$ 932.74	0.759412	\$ 708.33	\$ 1,318.10
\$ 1,101.17	0.733731	\$ 807.96	\$ 2,126.06
\$ 1,244.91	0.708919	\$ 882.54	\$ 3,008.60
\$ 1,398.27	0.684946	\$ 957.74	\$ 3,966.34
\$ 1,564.60	0.661783	\$ 1,035.42	\$ 5,001.77
\$ 1,705.67	0.639404	\$ 1,090.61	\$ 6,092.38
\$ 1,892.69	0.617782	\$ 1,169.27	\$ 7,261.65
\$ 2,015.64	0.596891	\$ 1,203.12	\$ 8,464.77
\$ 2,130.96	0.576706	\$ 1,228.94	\$ 9,693.71
\$ 2,236.71	0.557204	\$ 1,246.31	\$ 10,940.01
\$ 2,337.01	0.538361	\$ 1,258.16	\$ 12,198.17
\$ 2,433.96	0.520156	\$ 1,266.04	\$ 13,464.21
\$ 2,513.28	0.502566	\$ 1,263.09	\$ 14,727.30
\$ 2,609.25	0.485571	\$ 1,266.98	\$ 15,994.28
\$ 2,705.08	0.469151	\$ 1,269.09	\$ 17,263.37
\$ 2,787.10	0.453286	\$ 1,263.35	\$ 18,526.72
\$ 2,877.50	0.437957	\$ 1,260.22	\$ 19,786.94
\$ 2,921.97	0.423147	\$ 1,236.42	\$ 21,023.36
\$ 2,956.84	0.408838	\$ 1,208.87	\$ 22,232.23
\$ 2,976.72	0.395012	\$ 1,175.84	\$ 23,408.07
\$ 3,005.17	0.381654	\$ 1,146.93	\$ 24,555.01
\$ 3,005.85	0.368748	\$ 1,108.40	\$ 25,663.41
\$ 2,990.55	0.356278	\$ 1,065.47	\$ 26,728.88
\$ 2,969.18	0.344230	\$ 1,022.08	\$ 27,750.96

\$ 2,967.29	0.332590	\$ 986.89	\$ 28,737.85
\$ 2,986.63	0.321343	\$ 959.73	\$ 29,697.58
\$ 2,999.99	0.310476	\$ 931.42	\$ 30,629.00
\$ 2,987.58	0.299977	\$ 896.21	\$ 31,525.21
\$ 2,970.36	0.289833	\$ 860.91	\$ 32,386.12
\$ 2,928.06	0.280032	\$ 819.95	\$ 33,206.06
\$ 2,889.54	0.270562	\$ 781.80	\$ 33,987.86
\$ 2,847.44	0.261413	\$ 744.36	\$ 34,732.22
\$ 2,752.79	0.252572	\$ 695.28	\$ 35,427.50
\$ 2,660.94	0.244031	\$ 649.35	\$ 36,076.85
\$ 2,573.93	0.235779	\$ 606.88	\$ 36,683.73
\$ 2,485.55	0.227806	\$ 566.22	\$ 37,249.95
\$ 2,385.52	0.220102	\$ 525.06	\$ 37,775.01
\$ 2,283.51	0.212659	\$ 485.61	\$ 38,260.62
\$ 2,125.12	0.205468	\$ 436.64	\$ 38,697.26
\$ 1,935.75	0.198520	\$ 384.28	\$ 39,081.55
\$ 1,743.11	0.191806	\$ 334.34	\$ 39,415.89
\$ 1,526.63	0.185320	\$ 282.92	\$ 39,698.80
\$ 1,296.58	0.179053	\$ 232.16	\$ 39,930.96
\$ 1,094.80	0.172998	\$ 189.40	\$ 40,120.36
\$ 915.57	0.167148	\$ 153.04	\$ 40,273.39
\$ 780.51	0.161496	\$ 126.05	\$ 40,399.44
\$ 695.31	0.156035	\$ 108.49	\$ 40,507.94
\$ 621.33	0.150758	\$ 93.67	\$ 40,601.61
\$ 555.54	0.145660	\$ 80.92	\$ 40,682.53
\$ 518.28	0.140734	\$ 72.94	\$ 40,755.47
\$ 467.19	0.135975	\$ 63.53	\$ 40,818.99
\$ 414.33	0.131377	\$ 54.43	\$ 40,873.43
\$ 397.99	0.126934	\$ 50.52	\$ 40,923.94
\$ 452.64	0.122642	\$ 55.51	\$ 40,979.46
\$ 790.18	0.118495	\$ 93.63	\$ 41,073.09
\$ 2,531.85	0.114487	\$ 289.86	\$ 41,362.95
\$ 2,007.92	0.110616	\$ 222.11	\$ 41,585.06
\$ 301.02	0.106875	\$ 32.17	\$ 41,617.23

Edward Louis Brundick, III, Esq., CIMA®, CFP®

6490 South Oak Shadows Circle, Memphis, TN 38119 ■ (901) 481-0059 ■ ebrundickiii@bellsouth.net

PROFESSIONAL EXPERIENCE

2011 – 2013 Managing Director / Producer, Private Client Group, Duncan-Williams, Inc.

Responsible for branch network development, recruiting, recruiting protocols, training, and payout structures for producers and support staff in the Private Client Group. Opened the firm's first non-Memphis PCG branch in Akron, Ohio. Developed a profit and expense sharing payout plan for new recruits and brought in industry leading training to educate Financial Advisors on the 13 Wealth Management issues. Additionally responsible for systems development, product development, paperwork reduction and other operational efficiencies in support of the group. Lead the research and selection of FolioDynamix as the firm's fee-based platform. New products include ETFs, UITs and various insurance types.

2004 - Present Adjunct Professor, Finance Department, The University of Memphis

Instructor for Finance 4350 (Undergraduate) - Real Estate Investment, and Finance 6340 (Graduate) - Real Estate Appraisal classes. Taught undergraduate and graduate students basic terminology, principles and practices, investment strategy, ownership forms, tax implications, cash flow analysis, measures of return, risk management, nature of value, the appraisal process, market / cost / capitalization of income / gross rent multiplier approaches, and property selection.

2010 - 2011 Chief Operating Officer, Waddell & Associates, Inc.

Reported to the Chief Executive Officer and had overall strategic and operational responsibility for company programs. Participated in an extensive industry survey that helped us gain insights into best practices and the efficiencies of the firm in relation to peers. Provided strategic planning and implemented new strategic initiatives including a client satisfaction and needs survey. Lead, coached, developed, and retained the firm's high-performance producers with an emphasis on developing capacity through the addition of new product types. Developed alliances that increased the overall efficiency of the firm in non-proprietary product types. Prepared and submitted an annual operational budget, managed effectively within that budget, and reported on progress made and challenges encountered.

2005 - 2010 Sr. Vice President / Director – Wealth Management, Morgan Keegan & Company Inc.

Director of Operations and Reporting. Supervised a team of 55 who carried out account administration, trading, billing, and performance measurement of advisory fee-based accounts totaling \$9.5 billion in assets. Approved and supervised Firm's discretionary accounts and financial advisors. Acted as the 529/municipal securities principal and was responsible for the successful selection, purchase and implementation of the APL Trading and Caliper Performance Reporting Systems. Implemented additional Private Client Group technology projects including the premium statement redesign, the Microsoft contact management system, and the Unified Managed Account initiative. Other responsibilities included a \$6.0 million annual budget and approval of money manager and mutual fund agreements.

2004 - 2005 Vice President / Staff Attorney – Asset Management, Morgan Keegan & Company Inc.

In-house Attorney for the Regions / Morgan Keegan Proprietary Mutual Funds, Regions Registered Investment Advisor - Morgan Asset Management, Regions Morgan Keegan Trust, Morgan Keegan Trust FSB, and Morgan Keegan's Registered Investment Advisor - Wealth Management Services. Co-developed and wrote the Firms Code of Ethics and Policies and Procedures for the Registered Investment Advisor arm of Morgan Keegan.

2003 - 2004 **Associate Attorney – Regulatory Affairs, Morgan Keegan & Company Inc.**
Managed the Firm's compliance with applicable laws and various regulatory and self-regulatory rules and regulations. Responsible for the Firm's adherence to and completion of the 2003 NASD breakpoint analysis directive and implemented the Firm's B & C share policies for mutual funds transactions. Additionally drafted and was signatory for the SEC required opinion letters as part of several proprietary closed-end fund formations.

PROFESSIONAL LICENSES, CERTIFICATIONS & REGISTRATIONS

Licenses: Admitted to the Bar – Jurisdictions of Tennessee, Arkansas, and the District of Columbia.
Tennessee Insurance – Life, Accident & Health

Certifications: CIMA® - Certified Investment Management Analyst; CFP® - Certified Financial Planner

Registrations: FINRA - Series (4) Registered Options Principal, (7) General Securities Representative, (10) General Securities Sales Supervisor, (24) General Securities Principal, (31) Futures Managed Funds, (53) Municipal Securities Principal, and (66) Uniform Combined State Law

EDUCATION

2003 The University of Memphis, Juris Doctor
1999 The University of Memphis, Master of Business Administration (Finance & Marketing)
1998 The University of Memphis, Bachelor of Business Administration (Management)

HONORS, AWARDS, AND SERVICE

University of Memphis Cecil C. Humphreys Law School Alumni Board of Directors; AutoZone Liberty Bowl Board of Directors; AmSouth Investment Management Company (RIA) Board of Directors; Search and Selection Committee member for the U of M Fogelman Real Estate Chair of Excellence; Highest Law School Grades in International Finance, Products Liability, & Alternate Dispute Resolution; Cali & Dean's Excellence Awards; Director TVA Investment Challenge; U of M President's Academic Dishonesty Committee

PERSONAL

Married twelve years (Ginny); 3 children (Mary Olivia - 10, Annie - 8, Louis - 7)
Hobbies – coaching children, tennis, hunting